

## 1.0 INTRODUCTION

This "Los Alamos National Laboratory General Part B Permit Renewal Application" is submitted to address the New Mexico Administrative Code, Title 20, Chapter 4, Part 1 (20.4.1 NMAC), revised June 14, 2000 [6-14-00], requirements that apply to hazardous and mixed waste treatment and storage facility operations at Los Alamos National Laboratory (LANL). This document serves as Revision 2.0 to previous applications submitted to the New Mexico Environment Department (NMED) in August 1996 (Revision 0.0; LANL, 1996) and January 1999 (Revision 1.0; LANL, 1998a). It includes revisions presented in Responses to Supplemental Information submitted to the NMED in June 2000 (LANL, 2000a) and November 2001 (LANL, 2001), and in a Response to a Notice of Deficiency submitted to the NMED in August 2002 (LANL, 2002a). Revision 1.0 and this revision of the application were prepared to be consistent with the permitting strategy outlined by the NMED Hazardous and Radioactive Materials Bureau (HRMB) in correspondence dated February 5, 1998.

This permit renewal application also contains data, references to groups or organizations and contractors, references to documents, and other material provided to NMED for informational purposes only. Groups, organizations, and contractors, if changed, will be replaced and/or supplemented with functionally equivalent services required to assume the same duties and responsibilities described in this application. The above information is not intended to be incorporated into the renewed permit as an enforceable permit requirement, and its submittal should not be construed by NMED as the basis for the facility to consent to the imposition of permit conditions and/or requirements that are unnecessarily restrictive, go beyond the regulatory requirements of the Resource Conservation and Recovery Act, and/or reduce the ability of the facility to implement improved waste management practices.

As presented in the 1998 correspondence, certain portions of the LANL General Part B will serve in the operating permit as "umbrella" documents, covering the requirements of the New Mexico Hazardous Waste Act and implementing regulations, specifically, 20.4.1 NMAC [6-14-00], common to all treatment and storage units. Other applicable 20.4.1 NMAC Part B requirements would be addressed in technical area (TA)-specific permit applications, permit modification requests, or permit renewal applications. Together, information provided in this application and in the TA-specific documents will meet the applicable Part B requirements specified in 20.4.1 NMAC, Subparts V and IX [6-14-00].

In accordance with HRMB's 1998 permitting strategy, LANL submitted the "Los Alamos National Laboratory General Part A Permit Application" (Revision 0.0) in April 1998 (LANL, 1998b). That Part A consolidated information from previous site-wide and TA-specific Part A submittals into one comprehensive document, identifying all hazardous and mixed waste treatment, storage, and disposal facilities at LANL subject to 20.4.1 NMAC, Subparts V, VI, and IX [6-14-00], at that time. The Part A was subsequently revised and submitted to the NMED in November 1999 (Revision 1.0; LANL, 1999), July 2000 (Revision 2.0; LANL, 2000b), and August 2002 (Revision 3.0; LANL, 2002b). The most recent version of that document, hereinafter referred to as the LANL General Part A, serves as a companion document to the LANL General Part B and TA-specific permit applications, permit modification requests, and permit renewal applications.

In the LANL General Part A, the LANL General Part B, and TA-specific permit applications, a unit to be permitted may sometimes be referred to as a "facility" (e.g., the Radioassay and Nondestructive Testing Facility). The term "facility," as it appears in this context, is used only to denote building names and does not imply the regulatory meaning of "facility" as defined in 20.4.1 NMAC § 260.10 [6-14-00]. However, pursuant to 20.4.1 NMAC § 260.10 [6-14-00], the LANL facility as a whole does meet the regulatory definition of a facility.

Table 1-1 provides a list of regulatory references and the corresponding section location in this document, as appropriate. Where applicable, regulatory citations in this document reference 20.4.1 NMAC, which adopts, with a few exceptions, all of the Code of Federal Regulations, Title 40, Parts 260 to 266, Part 268, and Part 270.

**Table 1-1**  
**Regulatory References and**  
**Corresponding Permit Renewal Application Location**

Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(b)(1)	General facility description	Appendix A
§270.14(b)(2)	Chemical and physical analyses	Appendix B
§270.14(b)(3)	Waste analysis plan	Appendix B
§264.13(b)	Development and implementation of waste analysis plan	Appendix B
§264.13(c)	Off-site waste analysis requirements	Appendix B
§270.14(b)(4)	Security procedures and equipment	2.0 <sup>b</sup>
§270.14(b)(5)	General inspection requirements	Appendix C
§264.174	Container inspections	Appendix C
§264.193(i)	Tank inspections	Appendix C
§264.195	Overfill control inspections	Appendix C
§264.226	Surface impoundments monitoring and inspection	NA
§264.254	Waste pile monitoring and inspection	NA
§264.273	Land treatment design and operating requirements	NA
§264.303	Landfill monitoring and inspection	NA
§264.347	Incinerator monitoring and inspection	NA
§264.602	Miscellaneous units	Appendix C
§264.1033	Process vent standards	Appendix C
§264.1052	Equipment leak air emission standards	Appendix C
§264.1053	Compressor standards	Appendix C
§264.1058	Standards for pumps, valves, pressure relief devices, flanges and connections	Appendix C
§264.1088	Subpart CC inspection and monitoring requirements	Appendix C
§270.14(b)(6)	Request for waiver from preparedness and prevention requirements of 264 Subpart C	NA
§270.14(b)(7)	Contingency plan requirements under 264 Subpart D	Appendix E
§264.227	Surface impoundment emergency repairs; contingency plans	NA
§270.14(b)(8)	Preparedness and prevention	2.0 <sup>b</sup>
§270.14(b)(8)(i)	Prevention of hazards in unloading operations (ramps and special forklifts)	NA <sup>b</sup>
§270.14(b)(8)(ii)	Runoff prevention with berms, trenches, and dikes	NA <sup>b</sup>
§270.14(b)(8)(iii)	Prevention of contamination of water supplies	NA <sup>b</sup>
§270.14(b)(8)(iv)	Mitigation effects of equipment failure and power outages	NA <sup>b</sup>

**Table 1-1 (Continued)**  
**Regulatory References and**  
**Corresponding Permit Renewal Application Location**

Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(b)(8)(v)	Prevention of undue exposure of personnel by use of personal protective equipment	NA <sup>b</sup>
§270.14(b)(8)(vi)	Prevention of release to the atmosphere	NA <sup>b</sup>
§270.14(b)(9)	Prevention of accidental ignition or reaction	2.0 <sup>b</sup>
§264.17(c)	Documentation of compliance with 264.17 (general requirements for ignitable, reactive, or incompatible wastes)	NA <sup>b</sup>
§270.14(b)(10)	Traffic pattern, volume, and controls	Appendix A
	Identification of turn lanes	Appendix A
	Identification of traffic/stacking lanes	Appendix A
	Description of road surface	Appendix A
	Description of road load bearing capacity	Appendix A
	Identification of type and number of traffic controls	Appendix A
§270.14(b)(11)	Facility/unit location information	Appendix A
§270.14(b)(11)(i)	Seismic standard applicability [264.18(a)]	NA <sup>b</sup>
§270.14(b)(11)(ii)	Seismic standard requirements	NA <sup>b</sup>
§270.14(b)(11)(ii)(A)	No fault within 3,000 feet (ft) with displacement in Holocene time	NA <sup>b</sup>
§270.14(b)(11)(ii)(A)(1)	Published geological studies	NA <sup>b</sup>
§270.14(b)(11)(ii)(A)(2)	Aerial reconnaissance of a five-mile radius from the facility	NA <sup>b</sup>
§270.14(b)(11)(ii)(A)(3)	Analysis of aerial photographs covering 3,000-ft radius from the facility/unit	NA <sup>b</sup>
§270.14(b)(11)(ii)(A)(4)	Reconnaissance based on walking portions of the area within 3,000 ft of the facility	NA <sup>b</sup>
§270.14(b)(11)(ii)(B)	If faults which have displacement in Holocene time are present within 3,000 ft, no faults pass within 200 ft of portions of the facility where treatment, storage, or disposal will be conducted	NA <sup>b</sup>
§270.14(b)(11)(iii)	100-year floodplain standard	Appendix A <sup>b</sup>
§270.14(b)(11)(iv)	If facility is within 100-year floodplain	Appendix A <sup>b</sup>
§270.14(b)(11)(iv)(A)	Engineering analyses of hydrostatic forces expected in a 100-year flood	NA <sup>b</sup>
§270.14(b)(11)(iv)(B)	Structural engineering studies for flood protection to prevent washout	NA <sup>b</sup>
§270.14(b)(11)(iv)(C)	Detailed description of procedures to remove hazardous waste to safety before flood reaches the waste	NA <sup>b</sup>
§270.14(b)(11)(iv)(C)(1)	Timing of removal	NA <sup>b</sup>

**Table 1-1 (Continued)**  
**Regulatory References and**  
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Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(b)(11)(iv)(C)(2)	Location to be moved to	NA <sup>b</sup>
§270.14(b)(11)(iv)(C)(3)	Dedicated equipment and personnel to ensure removal	NA <sup>b</sup>
§270.14(b)(11)(iv)(C)(4)	Potential for accidental discharge during movement	NA <sup>b</sup>
§270.14(b)(11)(v)	Plan to show how the facility will be brought into compliance with 264.18(b)	NA <sup>b</sup>
§270.14(b)(12)	Personnel training program	Appendix D
§270.14(b)(13)	Closure and post-closure plans	Appendices F & G
§264.112	Amendment of closure plan	Appendix F
§264.118	Post-closure plan; amendment of plan	Appendices F <sup>b</sup> & G <sup>b</sup>
§264.178	Closure/containers	Appendix F <sup>b</sup>
§264.197	Closure/tanks	Appendix F <sup>b</sup>
§264.228	Closure/post-closure/surface impoundments	NA
§264.258	Closure/post-closure/waste piles	NA
§264.280	Closure/post-closure/land treatment	NA
§264.310	Closure/post-closure/landfills	Appendices F <sup>b</sup> & G <sup>b</sup>
§264.351	Closure/incinerators	NA
§264.601	Miscellaneous units	Appendix F <sup>b</sup>
§264.603	Post-closure care	Appendix G <sup>b</sup>
§270.14(b)(14)	Post-closure notices (264.119)	Appendices F & G
§270.14(b)(15)	Closure cost estimate (264.142)	Appendix F
	Financial assurance (264.143)	Appendix F
§270.14(b)(16)	Post-closure cost estimate (264.144)	Appendix G
	Post-closure care financial assurance (264.145)	Appendix G
§270.14(b)(17)	Liability insurance (264.147)	Appendices F & G
§270.14(b)(18)	Proof of financial coverage (264.149-150)	Appendices F & G
§270.14(b)(19)	Topographic map requirements	Appendix A <sup>c</sup>
§270.14(b)(19)(i)	Map scale and date	Appendix A <sup>c</sup>
§270.14(b)(19)(ii)	100-year floodplain	Appendix A
§270.14(b)(19)(iii)	Surface waters	Appendix A <sup>c</sup>
§270.14(b)(19)(iv)	Land use	Appendix A

**Table 1-1 (Continued)**  
**Regulatory References and**  
**Corresponding Permit Renewal Application Location**

Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(b)(19)(v)	Wind rose	Appendix A
§270.14(b)(19)(vi)	Map orientation	Appendix A <sup>c</sup>
§270.14(b)(19)(vii)	Legal boundaries	Appendix A <sup>c</sup>
§270.14(b)(19)(viii)	Access controls	NA <sup>b</sup>
§270.14(b)(19)(ix)	Wells	Appendix A <sup>c</sup>
§270.14(b)(19)(x)	Buildings	Appendix A <sup>c</sup>
	Treatment, storage, and disposal (TSD) operations	Appendix A <sup>c</sup>
	Run-on/run-off control systems	NA <sup>b</sup>
	Storm sewer systems	Appendix A
	Sanitary sewer systems	Appendix A
	Process sewer systems	Appendix A
	Loading/unloading areas	NA <sup>b</sup>
	Fire control facilities	Appendix E
§270.14(b)(19)(xi)	Drainage barriers	NA <sup>b</sup>
§270.14(b)(19)(xii)	Location of operational units	Appendix A <sup>c</sup>
§270.14(b)(20)	Other federal laws	3.0
	Wild and Scenic Rivers Act	3.0
	National Historic Preservation Act	3.0
	Endangered Species Act	3.0
	Costal Zone Management	3.0
	Fish and Wildlife Coordination Act	3.0
	Executive Orders	3.0
§270.14(b)(21)	Notice of extension approval for land disposal facilities	NA
§270.14(c)	Groundwater monitoring requirements	Appendix A
§270.14(c)(1)	Groundwater monitoring under 265.90 through 265.94	NA
§270.14(c)(2)	Identification of uppermost aquifer, groundwater flow rate and direction	Appendix A
§270.14(c)(3)	A topographic map required under 270.14(b)(19) that identifies proposed point of compliance	Appendix A
	Proposed location of groundwater monitoring wells under 264.97.	Appendix A
§270.14(c)(4)	Description of plume of contamination that has entered groundwater	NA
§270.14(c)(4)(i)	Extent of plume indicated on topographic map	NA

**Table 1-1 (Continued)**  
**Regulatory References and**  
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Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(c)(4)(ii)	Identification of constituents and concentration for Appendix IX of 264	NA
§270.14(c)(5)	Detailed plan and an engineering report describing proposed groundwater monitoring program under 264.97	NA
§270.14(c)(6)	No releases detected in groundwater (264.98)	Appendix A
§270.14(c)(6)(i)	List of proposed indicator parameters	NA
§270.14(c)(6)(ii)	Proposed groundwater monitoring system	NA
§270.14(c)(6)(iii)	Background values for each proposed monitoring parameter	NA
§270.14(c)(6)(iv)	Description of proposed sampling, analyses and statistical comparisons to be used	NA
§270.14(c)(7)	Release detected at point of compliance requires corrective action under 264.100	NA
§270.14(d)	Information requirements for solid waste management units (SWMU)	4.0 <sup>b</sup>
§270.14(d)(1)(i)	Location of SWMUs on topographic map	NA <sup>b</sup>
§270.14(d)(1)(ii)	Types of SWMUs	NA <sup>b</sup>
§270.14(d)(1)(iii)	Dimensions and descriptions of SWMUs	NA <sup>b</sup>
§270.14(d)(1)(iv)	Dates of operation	NA <sup>b</sup>
§270.14(d)(1)(v)	Waste types managed at SWMU	NA <sup>b</sup>
§270.14(d)(2)	Information on releases from SWMUs	NA <sup>b</sup>
§270.15	Containers	NA <sup>b</sup>
§270.16	Tank systems	NA <sup>b</sup>
§270.16(a)	Written assessment and certification	NA <sup>b</sup>
§270.16(b)	Capacity/dimensions	NA <sup>b</sup>
§270.16(c)	Systems and controls	NA <sup>b</sup>
§270.16(d)	Piping and process flow	NA <sup>b</sup>
§270.16(e)	External corrosion protection	NA <sup>b</sup>
§270.16(f)	Installation	NA <sup>b</sup>
§270.16(g)	Secondary containment system	NA <sup>b</sup>
§270.16(h)	Request for variance from secondary containment	NA <sup>b</sup>
§270.16(i)	Spill prevention	NA <sup>b</sup>
§270.16(j)	Ignitable, reactive, or incompatible wastes	2.0 <sup>b</sup>

<sup>a</sup> NA = not applicable

<sup>b</sup> Special requirements or information is addressed in technical area-specific permit applications, permit modification requests, or permit renewal applications, as appropriate.

<sup>c</sup> Some of the topographic map requirements are addressed in the most recent version of the "Los Alamos National Laboratory General Part A Permit Application."